N00174-00-R-0027-0003

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 13

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
0003	14-Jun-2000	7575000530598	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
NAVAL SURFACE WARFARE CENTER INDIAN HEAD DIVISION 101 STRAUSS AVEUE INDIAN HEAD, MD 20640-5035	N00174	**See Item 6**	

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
	X	9A. AMENDMENT OF SOLICITATION NO. N00174-00-R-0027
	X	9B. DATED (SEE ITEM 11) 08-May-2000
		10A. MOD. OF CONTRACT/ORDER NO.
CODE FACILITY CODE		10B. DATED (SEE ITEM 13)

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[X] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer [X] is extended, [ ] is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning 1 copies of the document; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN THE REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

A. [ ] THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

B. [ ] THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

C. [ ] THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

D. [ ] OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor [ ] is not, [ ] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

SEE PAGE 2 OF 2.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) KAREN TINDLEY / CONTRACT SPECIALIST	
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (Signature of Contracting Officer)	16C. DATE SIGNED 14-Jun-2000

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SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

This amendment is as follows:

1. The closing date is extended from: 15 June 2000 to: 22 June 2000

2. Drawing 6195939 in the suggested source(s) of supply box located in the lower left corner, the vendor part number should be SB43090.

3. WS33489 is corrected to read as provided below. Note: paragraphs 3.4, 3.11.1, 4.1, and 4.4 of WS33489 have changed.

4. Amendment 0002 dated 8 June 2000 is only one page.

PRF **WS 33489**
CAGE Code 53711
5 April 1999

PERFORMANCE SPECIFICATION

ITEM SPECIFICATION

FOR THE

CABLES, WATER BLOCKED, MK 16 MOD 0

Prepared by:
Indian Head Division
Naval Surface Warfare Center
101 Strauss Avenue
Indian Head, MD 20640-5035

Clark, David J

SUBMITTED BY: DATE:

APPROVED FOR USE AS
FUNCTIONAL BASELINE BY: DATE:

FSC

INCH-POUND
PRF WS 33489

PERFORMANCE SPECIFICATION

CABLES, WATER BLOCKED, MK 16 MOD 0

This specification is approved for use by the Naval Sea Systems Command, Department of the Navy and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This performance specification defines the performance and acceptance requirements for the Underwater Breathing Apparatus MK 16 Mod 0 water blocked cables used by the Explosive Ordnance Disposal (EOD) Divers to conduct under water operations.

1.2 General Background. This apparatus is to be used by Explosive Ordnance Disposal (EOD) Divers operating against influenced fuzed explosives loaded ordnance. This includes naval mines.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this specification are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified required documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specification and standards. The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified, the issue of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

DEPARTMENT OF DEFENSE

MIL-M-19595	Magnetic Effect Limits for Nonmagnetic Equipment Used in the Proximity of Magnetic Influence Ordnance
MIL-STD-810	Environmental Test Methods

2.2.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

DRAWINGS

NAVAL SEA SYSTEMS COMMAND (CAGE Code 53711)

6196017	Cable Assembly, Secondary
6196018	Cable Assembly, Scrubber
6196019	Cable Assembly, Primary
6196020	Cable Assembly, Oxygen Valve
6195869	Connector, Electrical Receptacle
6195938	Connector, Electrical, Plug
6195939	Cable, Water Blocked

(Copies of the drawings should be obtained from Commander, Naval Explosive Ordnance Disposal Technology Division, Equipment Management Department, Indian Head, MD, 20640-5035.)

2.2.3 Other publications. The following document for a part of this standard to the extent specified herein. Unless otherwise indicated, the issue in effect date of invitation for bids or request for proposal shall apply.

SOCIETY OF AUTOMOTIVE ENGINEERS

SAE AS13441	Test Methods for Electrical Connectors

(Application for copies should be addressed to Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096-0001).

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS. Since the MK 16 MOD 0 UBA is Life Support equipment, reliability is a major consideration in manufacturing the cables. Special attention should be exercised when assembling the cables to meet the following specifications:

3.1 Magnetic Signature. The cable shall comply with MIL-M-19595 non-contact component requirements. A 100% inspection is required.

CAUTION: Contamination by contact with magnetic materials such as magnets, iron, metal filings or any object that can generate a magnetic field may cause the end item/product to be rejected.

3.2 Torque Resistance. The cable shall withstand a repeated torque of 100 in-lb. applied to the connector/potting interface (figure 1).

3.3 Bending Resistance. The cable shall withstand a repeated bending moment of 200 in-lb. applied to the connector/potting interface (figure 2).

3.4 Tensile Strength. The cable shall withstand a repeated tensile load of 300 lb. applied to the connector/potting interface (figure 3).

3.5 High Temperature. The high storage temperature shall be 120° F. The high operating temperature shall be 90° F.

3.6 Low Temperature. The low storage temperature shall be -40° F. The low operating temperature shall be 29° F.

3.7 Bend Radius. A minimum bend radius of 1 inch is required through the entire temperature range.

3.8 Hydrostatic Pressure. The cable shall remain water tight at a pressure of 500 psig.

3.9 Ultraviolet Protection. The cable shall be resistant to damage from ultraviolet radiation.

3.10 Electrical Characteristics.

3.10.1 Continuity. The cable shall have a resistance of less than 1 ohm from pin to pin.

3.10.2 Insulation Resistance. The cable shall have an insulation resistance of 20-megohm minimum with 500 VDC applied for minimum of 1 second from pin to all other pins for every pin in either connector.

3.10.3 Dielectric. Each terminal (pin) shall test 15 microamps maximum to ground with application of 1500 VDC for a minimum of 10 seconds.

3.11 Physical Requirements

3.11.1 Electrical Connector Type (Plug). The electrical connector must be of the configuration found in drawing 6195938 and mate directly with the connector found on drawing 6195869. The connector must meet all requirements and specifications found in the respective drawing. Adapters, splices or junctions are not allowable.

3.11.2 Cable. The cable shall be of water block configuration found on drawing 6195939. The cable shall meet all requirements and specifications found in drawing 6195939. All interstices shall be filled with a water-blocking compound to meet hydrostatic requirements. The cable shall be continuous from connector to connector. No adapters, splices or junctions allowed.

3.11.3 Dimensions. Cable dimensions shall comply with drawings 6196017, 6196018, 6196019, and 6196020.

3.12 Other Requirements

3.12.1 Materials. All materials shall be free from defects or imperfections that could affect serviceability of the finished product. Materials shall be selected to ensure compliance with all requirements of this

specification throughout the service life. Metals and alloys shall be resistant to corrosion or shall be protected from corrosion using best commercial engineering and manufacturing practices for equipment operated in an exposed, maritime environment. All materials shall be suitable for use in seawater and shall not be harmed by exposure to oil or other petroleum products.

3.12.2 Standard Parts. Standard parts should be used whenever they are suitable for the application. When nonstandard parts or materials are used, their performance should be better than that of standard parts or materials. Used or damaged parts should not be used. The vendor's part selection should minimize the risk of parts obsolescence or nonavailability.

3.12.3 Packaging and Shipping. All items shall be packed and packaged using good commercial practices to ensure parts will arrive at destination without damage.

3.12.4 Identification and Marking. The container shall be marked and shall include the following information:

a. Manufacturer’s part number and quantity.
b. Actual manufacturer’s name or cage code identification number.
c. Government drawing number and NSN.

3.12.4.1 Cable marking. Each cable shall marked with the manufacturer’s cage code or name and part number.

4. VERIFICATION

4.1 Quality Conformance Inspection. Cables will be tested to verify that cables meet the required specifications. Samples for qualification testing shall be submitted in accordance with drawing 6196017. All of the following tests will be performed on each sample submitted for review. Testing of cables will be completed in the order listed in 4.2 through 4.10. Vendors that successfully qualify shall be added to source control drawings 6196017, 6196018, 6196019, and 6196020.

4.2 Magnetic Signature. The magnetic signature of the cable will be tested in accordance with MIL-M-19595. (See caution in section 3.1)

4.3 Torque resistance. The cable/connector interface will be mounted in vice with the mating electrical connector installed. Using a torque wrench the connector will be loaded until a reading of 100 in-lb. is reached then unloaded. The cable will be loaded and unload a total of ten times, after which it will be checked for electrical continuity. See figure 1.

4.4 Bending resistance. The cable/connector interface will be mounted in a vice with the mating electrical connector installed. Using a right angle bracket mounted to the mating connector and a torque wrench load the connector until a reading of 200 in-lb. is reached then unload. See figure 2.

4.5 Tensile Strength. Mounting the cable such that the potting will be pulled from the connector, load to 300 lb. and release. Repeat the loading and unloading process ten times. See figure 3.

4.6 High Temperature. The cable shall be tested per MIL-STD-810, Method 501.3, procedure 1, at 120° F for 24 hours. Proceed to Bend Radius Test per 4.8.

4.7 Low Temperature. The cable shall be tested per MIL-STD-810, Method 502.3, procedure 1, at -40° F for 6 hours. Proceed to Bend Radius Test per 4.8.

4.8 Bend Radius. Testing for the bend radius shall be completed immediately after the cables have been removed from the temperature chamber at the temperature extremes. The cables must not be allowed to reach ambient temperature.

4.8.1 Test per SAE AS13441 Method 2017, procedure 1.

4.8.2 Using a rod or tube with a 1 inch diameter make at least one full turn around the rod and release. This process will be repeated until a total of ten wrap/unwrap cycles have been completed. Wrap/unwrap cycles must be performed at the same location on the cable. See figure 4 for test setup.

4.9 Water Tightness. Use SAE AS13441, Method 1006.1, Test Condition C Table I, as a guide for the test.

NOTE: 1) Cables will be checked for electrical continuity after each test.
2) There shall be no separation of waterproofing from either the electrical connectors or the cable. Cables will be checked for separation after each test.

4.10 Electrical Tests.

4.10.1 Continuity. Verify a resistance of less than 1 ohm from pin to pin.

4.10.2 Insulation Resistance. Verify a resistance of 20-megohm minimum with 500 VDC applied for minimum of 1 second from pin to all other pins for every pin in either connector. Use SAE AS13441, Method 3003.1 as a guide for the test.

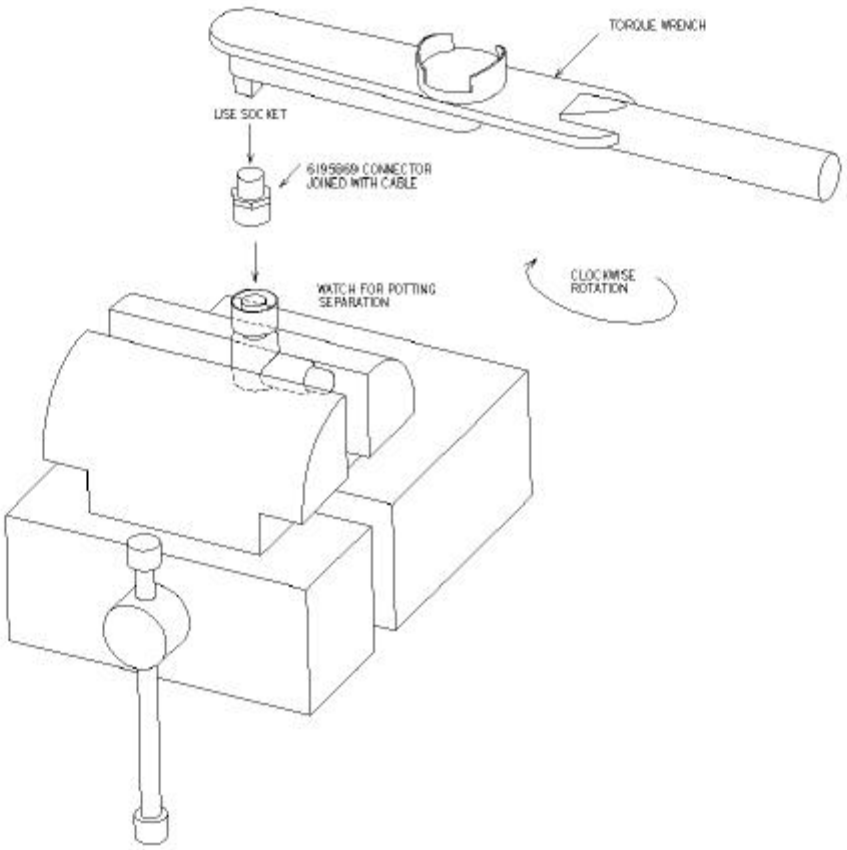

FIGURE 1. Torque Resistance.

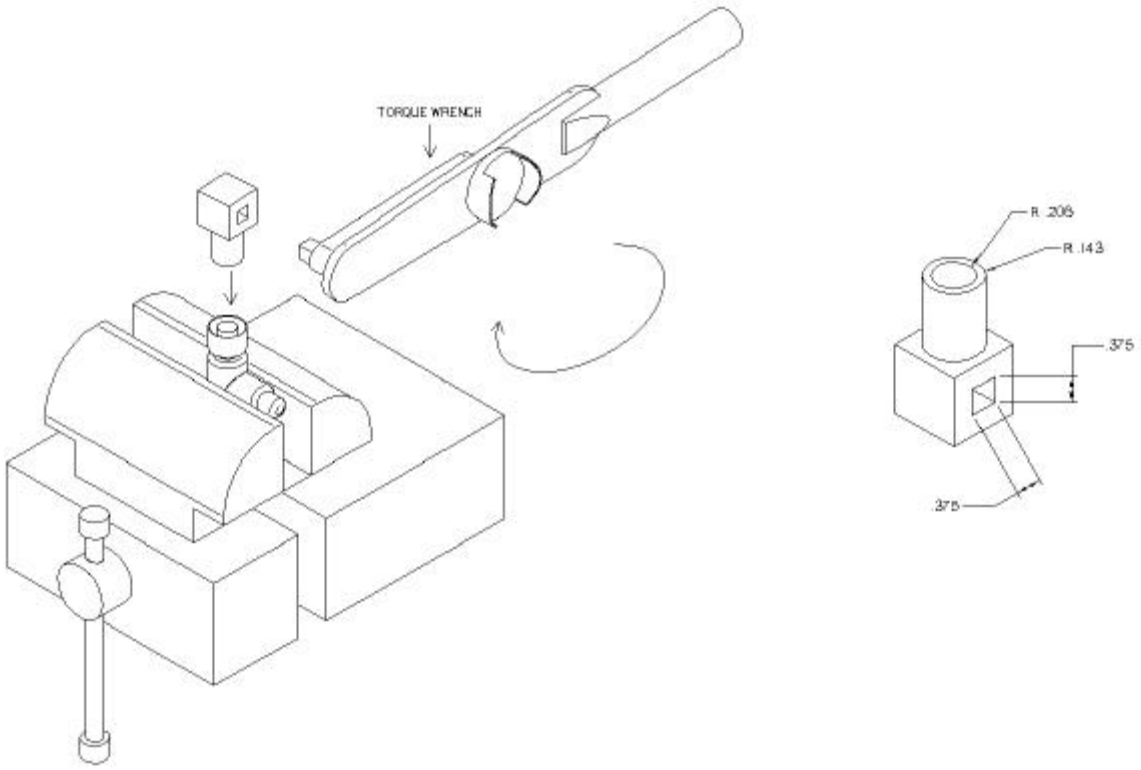

FIGURE 2. Bending Resistance.

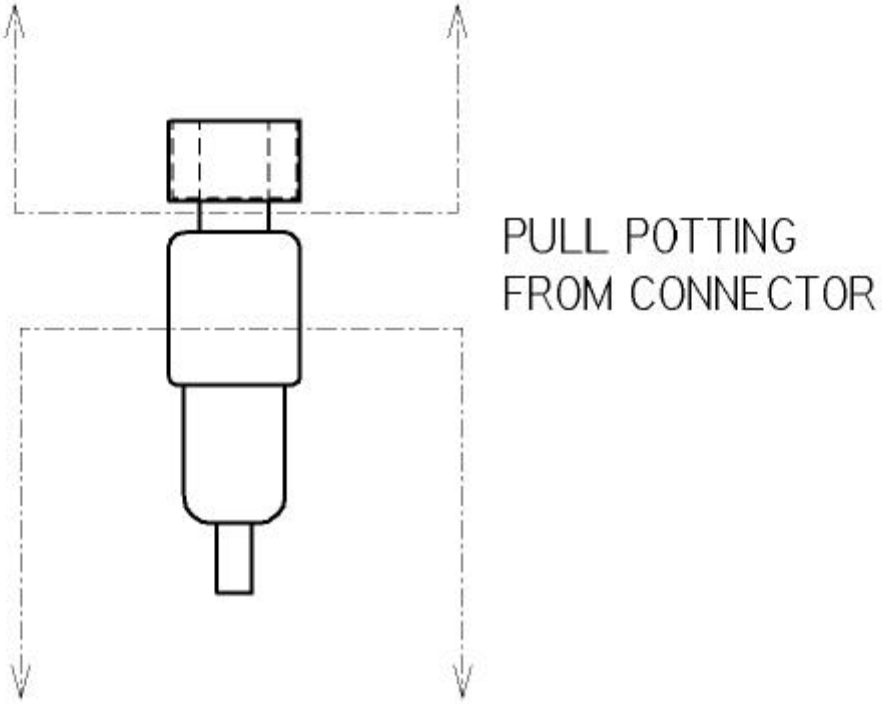

FIGURE 3. Tensile Strength.

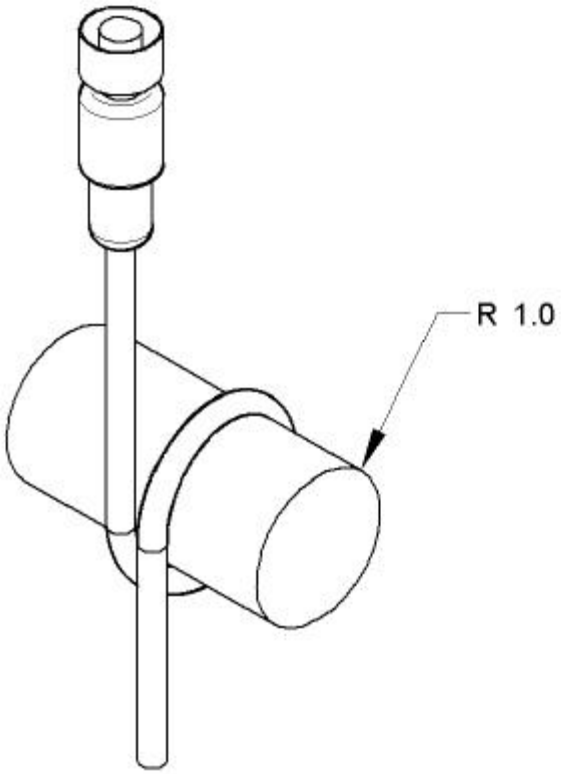

FIGURE 4. Bending Radius.

4.10.3 Dielectric. Each terminal (pin) shall test 15 microamps maximum to ground with application of 1500 VDC for a minimum of 10 seconds. Use SAE AS13441, Method 3001.1 as a guide for the test, excluding paragraph 2.5 test chamber (allowance for barometric-presure shall be considered for the test).

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order. When actual packaging of materiel is to be performed by DOD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managed Military Department's or Defense Agency's automated packaging files, CD ROM products, or by contacting the responsible packaging activity.

6. NOTES. This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.

6.1. Intended Use. The cable is intended for use in the MK 16 Mod 0 Underwater Breathing Apparatus in the proximity of underwater magnetic influence ordnance.

6.2. Acquisition requirements. Acquisition documents must specify the following:

a. Title, number, and date of this specification.

b. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2.1 and 2.2.2).

c. Whether first article inspection is required and, if so, the testing activity.

d. Production lot size and testing activity.

e. Items of data required for each first article and production lot.

f. Packaging requirements (see 5.1, and contract).

g. Responsibility for notifying all local, state, and federal agencies of any hazard associated with the testing, handling, and disposal of material.